



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,843	05/25/2001	Wolfgang Gebhardt	785.39987X00	4753

20457 7590 04/06/2004

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-9889

EXAMINER

KWOK, HELEN C

ART UNIT PAPER NUMBER

2856

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,843

Applicant(s)

GEBHARDT ET AL.

Examiner

Helen C. Kwok

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-17, 20, 29, 31-33, 35-41, 43-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-17, 20, 29, 31-33, 35-41, 43-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 15, 2003 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14-17, 20, 29, 31-33, 35-41 and 43-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 14, line 18, the phrase "the opening" is vague. Is this referring to the first opening or the second opening. Please clarify.

In claim 15, lines 3-4, the phrase "the opening" is vague. Is this referring to the first opening or the second opening. Please clarify.

In claim 48, lines 2-3, the phrase "the surfaces" lacks antecedent basis and is vague. Which "surfaces" are being referred to?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 14-17, 20, 29, 31-33, 37-41, 43-46 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,944,186 (Dorr).

With regards to claims 14-17, 20 and 41, Dorr discloses an ultrasonic measuring system comprising, as illustrated in Figures 1-6, at least one ultrasonic-wave transducer unit UT (a transducer that includes a transmitter and a receiver) which couples ultrasonic waves into a solid body HI via a coupling medium (i.e. pressurized air stream AS, as observed in Figure 1C) provided between the transducer unit and a boundary surface (i.e. the surface TA of the solid body HI is considered the boundary surface) wherein the ultrasonic waves generated by the transducer unit UT are being directed into a closed volume (i.e. the enclosed space located in housing 24) provided with a first opening (i.e. the opening where a compressed air line supplies a source of air 20 thru is considered the first opening) and a second opening (i.e. the opening where air and the ultrasonic waves passes through cowling 25 by jet nozzle 22, note Figure 3); the closed

volume is bordered by the housing 24 in which the transducer unit is contained (note Figure 5) includes a housing surface (i.e. an exterior surface 24S of the housing) that is spaced from the boundary surface which defines and extends outward from the second opening to define a channel (i.e. the path MP where the ultrasonic waves and air travel and are being measured, note Figure 2A) between the housing surface and the boundary surface; a flow of gas 20 (i.e. compressed air) is directed into an interior of the closed volume through the first opening and exits through the second opening which is directly facing the boundary surface and flows through the channel outward from the opening. (See, column 2, line 65 to column 5, line 17).

With claims 29, 31-33, Dorr teaches a sound conducting means 41 for coupling ultrasonic waves inside the closed volume toward the second opening. (As observed in Figure 2A; column 4, lines 1-18 and 53-55).

With regards to claims 37-40, 43-46, Dorr further suggests the flow of gas extends radially relative to the second opening and the a gas cushion of a thickness is created between the housing and the boundary surface are in equilibrium. (See, column 4, lines 19-47).

With regards to claim 48, Dorr further teaches the channel is of substantially uniform spacing between the surfaces. (As observed in Figure 2A).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2856

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 35-36 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,944,186 (Dorr) in view of U.S. Patent 4,787,407 (Vogel).

With regards to claims 35-36, Dorr suggests a sound conducting means; however, does not teach a sound-conducting means in a funnel-shaped for propagating the flow of gas without interferences. Vogel discloses an apparatus comprising, as illustrated in the figure, a sound-conducting means (i.e. a mirror) to couple the ultrasonic waves in the flow within a cylindrical circulator 5 to guide the coupling medium past the transducer unit 1. (See, column 2, lines 9-26; column 3, lines 7-22). It would have been obvious to an artisan in the art to have readily recognize the advantages and desirability to employ a sound-conducting means as suggested by Vogel to the apparatus of Dorr to couple and direct the ultrasonic waves along the coupling medium such that the ultrasonic waves is directed to the medium without having any interferences to provide a better and enhanced ultrasonic waves to the medium. Furthermore, it is well known in the art to include some type of sound-conducting means to prevent the ultrasonic waves from interferences so that better ultrasonic waves are obtained for measurements.

With regards to claim 47, Dorr further suggests the flow of gas extends radially relative to the second opening and the a gas cushion of a thickness is created between the housing and the boundary surface are in equilibrium. (See, column 4, lines 19-47).

Response to Amendment

8. Applicant's arguments with respect to claims 14-17, 20, 29, 31-33, 35-41 and 43-48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

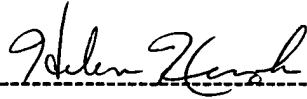
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to ultrasonic device having a transducer unit in a housing having a coupling medium.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Helen C. Kwok
Art Unit 2856

hck
March 30, 2004